

# AQVOX<sup>®</sup>

ADVANCED QUALITY AUDIO DEVICES



**AQVOX**  
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WEEE-Reg-Nr. DE98991032

OWNER'S MANUAL

## PHONO 2 CI

**Precision MM/MC Phonopreamplifier**  
**Current amplification for Mc's**  
**Fully balanced, Single-Ended Class-A**  
**RIAA + Neumann Equalisation**



## CAUTIONS REGARDING HANDLING

### Important Safety Instructions



#### Precautions for use:

Check that the operating voltage of your unit is identical with the voltage of your local power supply. The internal power supply works from 90 up to 240 Volt AC, 50 or 60 Hz.



Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further. Sometimes in summer you have faults in your local power supply due to overloading. Unplug the unit from the wall outlet when there is a thunderstorm.



#### Disconnect the power cord from the wall outlet in dangerous situations!

Always unplug the power cord from wall outlet by grasping the plug. Never pull the cord itself! Unplug the unit from the wall outlet if it is not to be used for an extended period of time.

Unplug the unit from the wall outlet before connecting other units or opening the Unit. If there is any break or cut in the AC-line cord, unplug it from the wall outlet and replace it by a new one!



#### Location

Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock. Leave some space around this unit for heat dissipation.



#### Condensation

When this unit is brought into a warm room from previously cold surroundings or when the room temperature rises sharply, condensation may form inside, and the unit may not be able to attain its full performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.



#### DISASSEMBLING PROHIBITED ! DO NOT OPEN! NO USER-SERVICEABLE PARTS INSIDE!

Refer servicing to qualified service personnel!

The fuses are inside of the unit and should be changed by qualified personnel only.

**Warning!** Changes or modifications to this equipment not expressly approved by AQVOX for compliance will void the user's warranty.



#### DANGEROUS VOLTAGE!

Uninsulated dangerous voltage inside the product's enclosure may cause an accident resulting in injury or death by fire or electrical shock.



#### ATTENTION!

The Owner's Manual contains important operating and maintenance instructions. For your safety, it is necessary to refer to the manual.



WARNING: TO PREVENT FIRE OR SHOCKHAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. THE USER IS NOT ALLOWED TO MODIFY THIS UNIT.



## TIPS AND HINTS

- **PHONO 2 CI** has a unique balanced current amplification XLR input for moving coil pickups. No need for impedance adjustment. Be sure to have a real balanced connection from pickup to **PHONO 2 CI**. Or use the special AQVOX, XLR-to-RCA adaptor. **Ideal is AQVOX special low inductance (braided) balanced silver or copper cable.**
- **Never connect RCA AND XLR-CI Input!** Only RCA or XLR! XLR and RCA outputs are always active and usable, despite the chosen input!
- The frequency bandwidth of MC's connected at the XLR-input (shortcutmode/current-amplification) are in the low-frequencies a bit dampened. This can be corrected with changing the tonearm-height or counterweight or the compliance. Ask AQVOX or dealer.
- Distortions in XLR mode like **Radio/Hum/Noise** resulting **always** from wrong cables. The screens of RCA cables are antennas in XLR mode. If the screen of a XLR cable is connected to the negative conductor makes a antenna. Contact AQVOX or your dealer.
- If there is a grounding cable at tonarm or turntable, try for low hum the connector at the back of **PHONO 2 CI**. Try GROUND LIFT Switch for lowest hum noise.
- **PHONO 2 CI** uses RIAA equalization with Neumann time constant because almost all records are cutted using this or similar extension. **PHONO 2 CI** uses Neumann extension, providing extended high frequency range and a correct phase and level in the upper frequency range for better transparent and natural reproduction.
- The XLR-Current-Amplification-MC-Input at the Phono2Ci is mostly the first choice in sound quality! Almost all MC pickups are balanced, the inner tone arm wiring as well. For an even better result ask your dealer or AQVOX for a balanced XLR phonocable.

## SPECIFICATIONS

<b>RCA-Input-Sensitivity:</b>	<b>49db - 68db / 0,4-12mVrms 1kHz, 1Vrms out XLR</b>
<b>RCA-Input-Impedance:</b>	47-kOhm, switchable to 1-kOhm and 100-Ohm
<b>RCA-Input-Capacity:</b>	47pF internal, switchable +47pF, +100pF, +220pF, +470pF
<b>XLR-Current-Input-Sensitivity:</b>	<b>55db - 76db (suits 0,10mV to over 4,5mV)</b> (HighOutput MC-cartridges over 4,5mV only with a 10 - 20 Ohms resistor in XLR- plug)
<b>XLR-Current-Input-Impedance:</b>	10-Ohm (for 1-Ohm up to X-Ohm MC-cartridges)
The sensitivity of the XLR Current amplification-Input depends on Voltage and Impedance of the Moving Coil Cartridge. The CI-Input fits to a wide range of MC's, High-Output MC's as well as Ultra-Ultra Low-Output.	
<b>Equalisation-Filter:</b>	RIAA with Neumann time constant +/- 0,25 dB (50kHz roll-off)
<b>Subsonic-Filter:</b>	-9dB / 10 Hz, -18 dB / 5 Hz, -48 dB / 2 Hz
<b>THD + Noise</b>	1V out-XLR: 0.009% at min. 0.04% at max. MM-RCA-In 1V out-XLR: 0.019% at min. 0.09% at max. MC-RCA-In

#### Signal-Noise Ratio (S/N) IHF-A

1V-Out-XLR-MM-RCA-In	76dB Flat, 84dBA at min./ 63dB Flat, 71dBA at max.*
1V-Out-XLR-MC-RCA-In	69dB Flat, 78dBA at min./ 57dB Flat, 65dBA at max.*

#### Power consumption

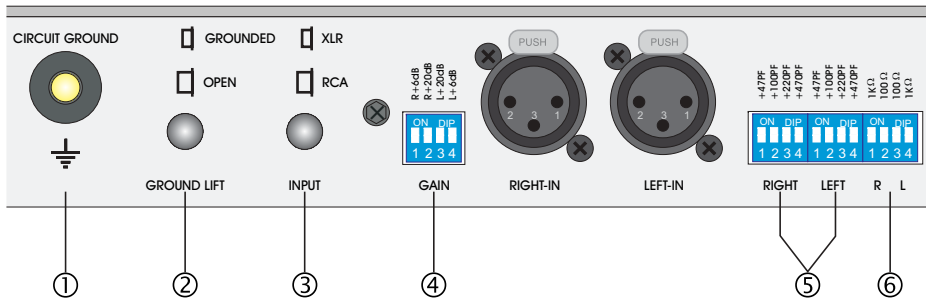
5 W

**External dimensions (w / h / d):** ca. 435 x 59 x 290 mm **Weight** ca. 2.8 kg

**Accessory:** Alu-rackmounts for 19"-Standard-Racks, available in silver color

\*min. and max. Stating the minimum/maximum position of the front Gain-knobs.

Note: Specifications and design are subject to possible modification without notice, due to improvements. Errors excepted. © 2007 - 2009 AQVOX Audio Devices - Hamburg / Germany - www.AQVOX.com



## REAR PANEL: OPTIONS

### GROUND

- ① CIRCUIT GROUND - Ground clamp to connect extra turntable / tone arm grounding wire. May also be used for additional grounding to proper external ground.
- ② GROUND LIFT - Ground connection from internal circuit ground to housing and power ground. May be opened or closed for lowest hum noise.

### INPUT SELECTION

- ③ INPUT - Select XLR or RCA Input. If XLR is selected, RCA gets shortened to ground. If RCA is selected, XLR still remains in the circuit and will change gain of RCA input unlinearly!  
**DO NOT CONNECT BOTH RCA AND XLR!**  
**Any trouble caused by connecting both is not covered by warranty!**

### RCA GAIN switches

- ④ GAIN switches (only for RCA) - Switch +6dB adds 6 dB gain for use with High Output Moving Coil or Low Output Moving Magnet cartridges. Switch +20dB adds 18 dB gain for use with Moving Coil cartridges.

### RCA LOAD switches

- ⑤ INPUT CAPACITY (only for RCA) - Use the capacity switches to adjust high frequency range of Moving Magnet cartridges. The capacity sum up to each other and to the internal 47pF and cable capacity.
- ⑥ INPUT IMPEDANCE (only for RCA) - Input Impedance can be set to 1 kOhm, a recommended value for most High Output Moving Coils, or to 100 Ohm, a common value for most Moving Coils.

**In spite of so many options for the RCA Input:  
The balanced XLR-Current-Injection-MC-Input is the first choice in audible quality!**

## INTRODUCTION

Thank you for purchasing the **AQVOX Phono 2 CI**! Please read the manual carefully in order to use your **Phono 2 CI** in the best possible way. The **Phono 2 CI** is a unique and impressively sounding product and this manual is intended to introduce you the available features.

**Phono 2 CI** is a state of the art phono amplifier

### XLR - Balanced - Input

The unique variable balanced current amplification input for a wide range of moving coil pickups and the single-ended Advanced Class-A amplifier technology for the output stage provides you today's best possible sound quality. No termination required/possible.

### RCA - Unbalanced - Input

At RCA input for unbalanced use with Moving Magnet or Moving Coil cartridges the input stage is used as a voltage amplifier. All amplifier sections run without overall negative feedback, but only little local feedback. Thus nearly no dynamic distortions are created by the amplifier.

**Phono 2 CI** is an excellent choice for high end audio equipment users who like to get best possible phono quality from their HiFi system. Due to **Phono 2 CI**'s balanced XLR current amplification input and also balanced XLR output, **Phono 2 CI** is best choice for professional users as well.

**Attention: Only connect XLR OR RCA Input! Never both!**

### TIP for PHONO-CABLES

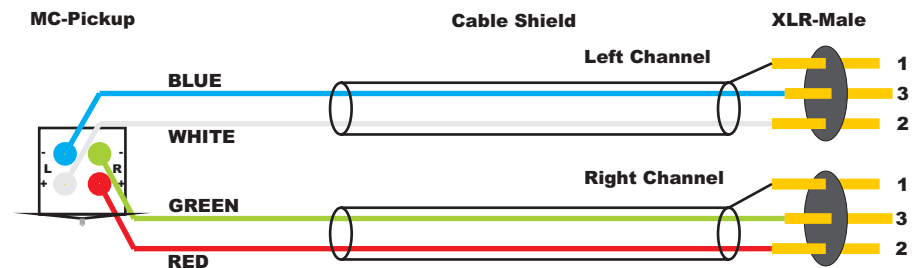
Nearly all MC-Pickups and Tonearm-wirings are balanced/ symmetrical. Only the Phonocable between the Turntable and the Phonostage is unbalanced. AQVOX offers for tests and as provisional solution an Adaptor from RCA to XLR. But the extremely sonical advancements of the balanced-current-amplification (XLR-input) can only be experienced with true balanced Phonocables.

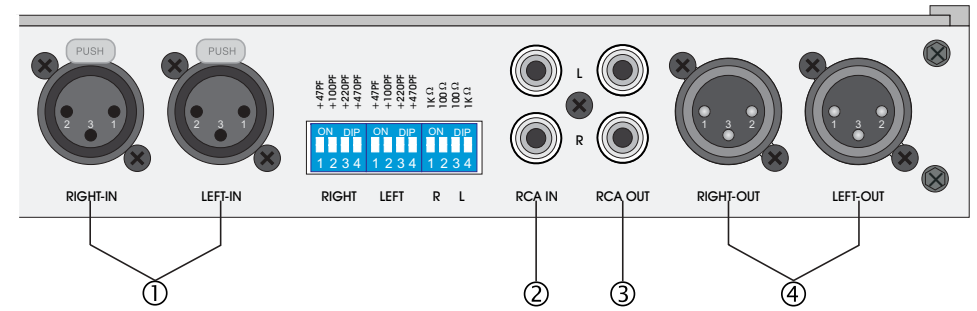
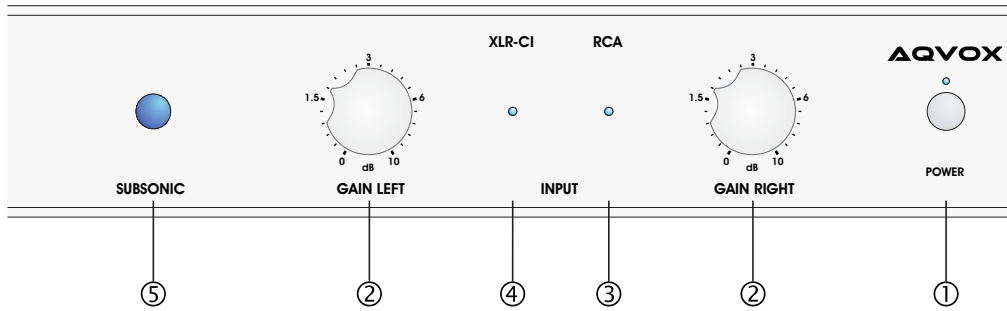
**TRUE Balanced with just two conductors?** Normally balanced connections have 3 conductors: positive, negative and ground. But in the case of eg. cartriges or microphones, which are balanced sources with just 2 conductors - positive and negative. The technical term is floating balanced or balanced without ground. **Yes this is TRUE balanced!** The positive signal is connected to one dedicated amplifier stage and the negative signal is inverted and also connected to one dedicated amplifier stage = differential amplifier!

**AQVOX offers special Phonocables for the demanding XLR-input.** Braided solid-core-pure-silver conductors in teflon insulation or twisted double-balanced copper-litz.

Cables from AQVOX are exactly developed for the Phono2Ci. See our tonearm-table under [www.AQVOX.de](http://www.AQVOX.de) or **contact us by email or phone.**

### SYMMETRICAL CARTRIDGE-CONNECTION





## FRONT PANEL

### POWER

- ① POWER SWITCH Turns the unit ON/OFF. On is indicated by LED above.

### GAIN



**The GAIN-controls are NO Volume controls!  
Wrong settings resulting in loss of soundquality!**

- ② Controlling the INPUT Gain/Preamplification. For adjusting to different cartridge-levels or recording levels of records. Find for every cartridge or record the optimum Gain settings by listening stepwise through the full Gain range. The optimum is found, where details and soundstage is best. The separate Gain controls allowing equalisation of channel unbalances of eg. the cartridge.

### INPUT LEDs

- ③ INPUT RCA LED indicates active unbalanced RCA input for MM or MC.
- ④ INPUT XLR-CI LED indicates active balanced XLR Current Injection input for MC.

**Attention: Only connect XLR OR RCA Input! Never both!**

### SUBSONIC FILTER

- ⑤ SUBSONIC Use this switch to reduce subsonic noise and large speaker excursions. Active subsonic is indicated by blue light.

## REAR PANEL: IN/OUT

### MM / MC INPUT

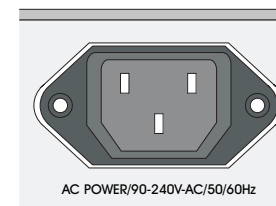
- ① XLR-CI IN - Balanced Current Injection XLR Input for Moving Coil Pickup System. Whenever a suitable moving coil system and balanced tonearm cable is available this input is the first choice in sound quality. XLR pinning as followed:  
1 = Ground  
2 = Non-inverted input, sometimes called "hot" or "+" input.  
3 = Inverted input, sometimes called "cold" or "-" input.
- ② RCA IN - Standard RCA MM/MC Input for Moving Magnet or Moving Coil Pickup System. (Switches for capacitance, gain and impedance see next page)

**Attention: Only connect XLR OR RCA Input! Never both!**

### LINE OUTPUT

There are two analog output connections: RCA jacks for unbalanced line output and XLR connectors for balanced. Use the balanced XLR output whenever possible. Make sure your preamplifier is either turned off or its volume is set to minimum whenever making connections.

- ③ RCA OUT - Standard RCA output.
- ④ XLR OUT - Balanced XLR Output. Whenever a suitable amplifier is available this output is the first choice in sound quality. XLR pinning see ①



### POWER CONNECTION

AC POWER - Connector for the AC power cord. This unit adjust automatically to an AC voltage between 90 Volt and 240 Volt, respectively 50 Hz and 60 Hz.